

LAW OFFICES

KELLER AND HECKMAN LLP

1001 G STREET, N.W.  
SUITE 500 WEST  
WASHINGTON, D.C. 20001  
TELEPHONE (202) 434-4100  
FACSIMILE (202) 434-4646

25 RUE BLANCHE  
B-1060 BRUSSELS  
TELEPHONE 32(2) 541 05 70  
FACSIMILE 32(2) 541 05 80

WWW.KHLAW.COM

JOSEPH E. KELLER (1907-1994)  
JEROME H. HECKMAN  
WILLIAM H. BORGESANI, JR.  
MALCOLM D. MACARTHUR  
WAYNE V. BLACK  
TERRENCE D. JONES  
MARTIN W. BERCOVICI  
JOHN S. ELDRID  
RICHARD J. LEIGHTON  
ALFRED S. REGNIER  
DOUGLAS J. BEHR  
RAYMOND A. KOWALSKI\*  
MICHAEL F. MORRONE  
JOHN B. RICHARDS  
JEAN SAVIGNY\*  
JOHN B. DUBECK  
PETER L. DE LA CRUZ  
MELVIN S. DROZEN  
LAWRENCE P. HALPRIN  
RALPH A. SIMMONS  
RICHARD F. MANN

C. DOUGLAS JARRETT  
SHEILA A. MILLAR  
GEORGE G. MISKO  
PATRICK J. HURD  
DAVID G. SARVADI  
CATHERINE R. NIELSEN  
MARK MANSOUR\*  
ELLIOT BELLOS  
JEAN-PHILIPPE MONTFORT\*  
JOAN C. SYLVAIN\*  
JUSTIN C. POWELL  
GEORGE BRENT MCKUM, IV  
COLETTE FERRIS-SHOTTON  
ARTHUR S. GARRETT III  
ROBBIE S. PITT  
ELIZABETH N. HARRISON  
JOHN B. RODGERS  
MARTHA E. MARRAPESE  
PETER A. SAARI\*  
NEGIN MOHTADI  
NICOLE B. DONATH  
DAVID R. JOY  
FREDERICK A. STEARNS

TODD A. HARRISON\*  
JOHN F. FOLEY  
TONYE RUSSELL EPPS  
THOMAS C. BERGER  
RACHIDA SENAL\*  
JOHN DOBINSON\*  
DANIEL QUINTART\*  
KONAL J. HERSHBERG  
PAULA DEZA  
JOHN B. O'LOUGHLIN, JR.  
DEVON Wm. HILL  
N. AJAY MATHEW  
JOANNA R. SOFFA  
AMY E. FORTENBERRY  
PAMELA L. GAUTHIER  
COLLEEN M. EVALE  
ANN M. BOECKMAN\*  
SARA D. COLEMAN  
DEBORAH W. ZIFFER\*  
JEFFREY A. KEITHLINE\*  
MICHAEL D. OLSEN\*  
MICHELLE L. DAUPHINAIS\*  
FRANK J. VITOLO\*

\*NOT ADMITTED IN D.C.  
\*RESIDENT BRUSSELS

SCIENTIFIC STAFF  
DANIEL S. DIXLER, Ph. D.  
CHARLES V. BRIDER, Ph. D.  
ROBERT A. MATHEWS, Ph. D., D.A.B.T.  
JOHN P. MODDERMAN, Ph. D.  
(1944-1998)  
HOLLY HUTNIRE FOLEY  
JANETTE HOUK, Ph. D.  
LESTER BORODINSKY, Ph. D.  
THOMAS C. BROWN  
MICHAEL T. FLOOD, Ph. D.  
ANNA GERGELY, Ph. D.\*  
STEFANIE M. CORBITT  
JUSTIN J. FREDERICO, Ph. D.  
ROBERT J. SCHEUPLER, Ph. D.  
RACHEL F. JOYNER  
ELIZABETH A. HEGER  
TELECOMMUNICATIONS  
ENGINEER  
RANDALL D. YOUNG  
WRITER'S DIRECT ACCESS

RECEIVED

NOV 17 1999

November 17, 1999

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

(202) 434-4144  
bercovici@khlaw.com

Mr. Thomas Sugrue  
Chief, Wireless Telecommunications Bureau  
Federal Communications Commission  
445 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

Ms. Kathleen M.H. Wallman  
Wallman's Strategic Consulting, LLC  
555 12<sup>th</sup> Street, N.W.  
Washington, D.C. 20004

Re: 700 MHz Public Safety Allocation, WT Docket No. 96-86; The Interoperability Conundrum; Reply to Response to Association of Public-Safety Communications Officials-International, Inc.

Dear Mr. Sugrue and Ms. Wallman:

Reference is made to the letter dated October 28, 1999 from Robert M. Gurs, counsel for the Association of Public-Safety Communications Officers-International, Inc. ("APCO"), in response to our letter of October 8, 1999 addressing the development of standards for interoperability as mandated by the Federal Communications Commission in the First Report and Order in WT Docket No. 96-86, *Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communications Requirements Through the Year 2010* ("First Report and Order"). The undersigned parties do not wish to belabor this issue; however, the opportunity presented to the public safety community by the 700 MHz frequency allocation is very important, and the APCO response contains a number of statements which are misleading and in and of themselves, or by omission of relevant component facts.

The issue, according to APCO, appears to be one of recognition of Project 25 Phase I as the interoperability standard for the 700 MHz band. Regardless of the "years of hard work" that have gone into developing the Project 25 Phase I protocol, the NCC process is not intended by the Commission to be a coronation of Project 25. Had that been the case, the Commission would not have rejected Project 25 Phase I in the *First Report and Order*. *First Report and Order* at ¶113. Rather, the Commission adopted technical standards, including a 6.25 kHz bandwidth

Mr. Thomas Sugrue  
Ms. Kathleen M.H. Wallman  
November 17, 1999  
Page 2

standard; and it provided for the establishment of the National Coordination Committee as a Commission-sponsored Federal Advisory Committee which is charged, *inter alia*, with developing an operational plan to achieve national interoperability and to recommend interoperability digital modulation, trunking and receiver standards for Commission review and approval. *First Report and Order* at ¶92.

While initially contemplating that the NCC itself would develop standards, by necessitating that the NCC become certified by the American National Standards Institute ("ANSI"), the Commission in response to petitions for reconsideration deleted the requirement for ANSI accreditation and instead provided the NCC the *option* to obtain accreditation and to set technical standards itself or instead to set standards in conjunction with Accredited Standards Developers who already have undergone the relatively lengthy ANSI accreditation process.<sup>1/</sup> Nowhere in either the *First Report and Order* or the NCC Charter does the Commission suggest that the task of the NCC is merely to recommend an *existing* equipment standard for interoperability in the 700 MHz public safety band regardless of whether that standard complies with the technical specifications for operation in the band prescribed by the Commission. Notwithstanding, that appears to be the posture of APCO, as reflected in its letter of October 28, 1999.

As justification for pushing Project 25 Phase I as the equipment standard for the 700 MHz band, APCO offers the "startling" observation that, "There is no ANSI certified 6.25 kHz public safety standard today . . ." APCO recites the obvious as if it is a justification for adoption of a 12.5 kHz bandwidth standard which the Commission rejected. APCO ignores that the very purpose of the NCC is to develop standards for interoperability at 700 MHz utilizing 6.25 kHz bandwidth equipment.

With specific reference to the APCO letter of October 28, 1999, the following statements are erroneous either by their very terms or by omission:

- **"Project 25 Phase I equipment is already provided by multiple vendors . . ."**  
While there are multiple vendors of Project 25 conventional equipment, there is only a single vendor of Project 25 trunked equipment.<sup>2/</sup>
- **"Project 25 Equipment in the 700 MHz band will be interoperable with the large base of Project 25 equipment being installed in VHF, UHF, and 800**

---

<sup>1/</sup> See, *Memorandum Opinion and Order on Reconsideration*, WT Docket No. 96-86, released May 4, 1999 ("MO&O"), see also NCC First Report to the Federal Communications Commission at p. 5 (Aug. 25, 1999),

<sup>2/</sup> See "Tetra's Opportunity in America," Public Safety Report, Aug. 1999 at 75, 76.

Mr. Thomas Sugrue  
Ms. Kathleen M.H. Wallman  
November 17, 1999  
Page 3

**MHz bands . . .**” The undersigned Parties are unaware of any plans for multi-band radios that would embrace the 700 MHz, VHF, UHF and 800 MHz bands. Merely having “standardized vocoders” does not provide for cross-band interoperability.

- **“While Project 25 Phase I is a 12.5 kHz standard, it meets the Commission’s [sic] efficiency requirements for the 700 MHz band (9.6 kbps per 12.5 kHz).”** As detailed completely and objectively in the letter of October 8, 1999 to which APCO responds, the “equivalency test” is a data standard; the Commission did not provide a corresponding equivalency standard for the voice path. Clarification on this issue has been requested on reconsideration.<sup>3/</sup>
- **“. . . the Commission clearly has given the NCC the option of selecting Project 25 or other 12.5 kHz standards, at least on an interim basis.”** In support of this assertion, APCO cites to the *MO&O*. As recognized by the NCC in its First Report to the Commission, on May 4, 1999 the *MO&O* deals specifically with the issue of whether the NCC must become ANSI certified. In the May 4 Order, the Commission stated that the NCC “may, but is not required to, become ANSI accredited.”<sup>4/</sup> This does *not*, however, limit the work of the NCC to merely selecting an approved standard; nor does it sanction the NCC endorsing an existing standard which does not comply with the technical specifications adopted by the Commission for operation in the 700 MHz band. Moreover, the *MO&O* does not address, let alone invite, recommendation of an “interim” standard.

The Commission has made reference to combining 6.25 kHz channels for use as 12.5 kHz channels “until such time as standard 6.25 kHz equipment is readily available.”<sup>5/</sup> This must be viewed in context. The Commission stated that until 6.25 kHz narrowband operation is “both technical and operationally feasible. . . the RPCs [Regional Planning Committees] will be allowed to combine these narrow channels like building blocks to create wider channels in two standard bandwidths,

---

<sup>3/</sup> See October 8, 1999 letter at p. 2 and n.1.

<sup>4/</sup> See *MO&O* at ¶2. As an alternative to becoming accredited, the Commission is allowing the NCC to make use of and base its recommendations on the standards development work of other existing Accredited Standards Developers.

<sup>5/</sup> See *First Report and Order* at n. 291.

Mr. Thomas Sugrue  
 Ms. Kathleen M.H. Wallman  
 November 17, 1999  
 Page 4

12.5 kHz and 25 kHz. . .”<sup>6/</sup> Nowhere in the *First Report and Order*, whether in discussion of the responsibility of the NCC or otherwise, does the Commission invite the NCC to spend its limited time and resources in recommending an interoperability standard for interim operations. To the contrary, the time-limited nature of the NCC charter and the Commission’s direction to the NCC to develop standards for Commission review, coupled with the Commission’s objective of utilizing the band for a 6.25 kHz bandwidth operation, requires the NCC to address development of the standards necessary for operation at 6.25 kHz and not merely endorsement of an interim non-conforming system. In any event, provision for interim operation is before the Commission in pending petitions for reconsideration. Moreover, the focus on interim “standards” is unnecessary and inappropriate considering that the band is not required to be cleared of television broadcast operations, and thus fully available to public safety users, until December 31, 2006.<sup>7/</sup>

- **“. . . the key is whether such equipment contains ‘the interoperability mode.’ If so, interoperability with all other radios concerning the same mode is ensured, regardless of other modes contained within those radios that may, or may not, include unrelated proprietary features. For interoperability purposes, it is irrelevant whether spare bits are used for ‘standard options,’ ‘non-standard options,’ proprietary features, or nothing at all.”** There is an inherent inconsistency in the APCO argument. If proprietary features utilizing undesignated bits can be incorporated in the interoperability protocol and do not interfere with interoperability so long as all radios observe the specifications for the prescribed bits, then there may be no issue regarding licensing of proprietary features. By analogy, two door keys may appear identical with the exception of a singular notch in one of the keys. Whether the key without that notch will open the lock depends upon whether the lock is primed to recognize that notch.

---

<sup>6/</sup> See *First Report and Order* at ¶38.

<sup>7/</sup> APCO further cites to a memorandum to the NCC from Mr. Michael Wilhem, the FCC’s Designated Federal Officer for the NCC, dated September 9, 1999. While advanced as his own effort to assist the NCC (and not as an official interpretation of the Commission), Mr. Wilhelm’s reference to “interim and final recommendations to the Commission” is consistent with the NCC charter calling upon “recommendations for use of interoperability spectrum . . . that will allow public safety licensees to make use of such spectrum until final rules are developed.” Charter, NCC Objectives and Scope of Its Activity, at ¶4. Interim use of the spectrum does not necessarily require the prescription of the same sort of standards as contemplated with regard to the technical specifications set by the Commission.

Mr. Thomas Sugrue  
Ms. Kathleen M.H. Wallman  
November 17, 1999  
Page 5

Contrary to APCO's attempt to assume-away the significance of undesignated bits, there is a real and substantial issue of whether radios which use undefined bits in a proprietary manner will be able to inter-communicate with radios which do not observe that same protocol for the undefined bits. That is a function of whether the recognition of the undefined bits in the signaling protocol is necessary to achieving the digital "handshake" with the radios employing the undefined bits.

The undersigned parties wholeheartedly concur with APCO on one critical point:

All standards bodies, including ANSI and TIA, necessarily limit their IPR involvement to requiring that participants certify that IPR [intellectual property rights] will be licensed on fair, reasonable and non-discriminatory terms. Neither the NCC nor any other standards development body is properly equipped to delve further to determine whether actual terms and conditions satisfy that requirement.

APCO's counsel previously noted that the only effective means to challenge the self-policing with regard to IPR licensing is through a private civil action between the parties.<sup>8/</sup> The undersigned are highly concerned that allowing IPR in the signaling protocol, and leaving policing of IPR licensing to civil litigation, will result in a limited market supply of 700 MHz radios, similar to 800 MHz trunked systems, with most smaller agencies and rural and volunteer departments priced out of the market and the interoperability environment.<sup>9/</sup>

The Commission also expressed concerns:

The ANSI patent policy, however, may be insufficient to protect all of the parties potentially affected in cases where proprietary intellectual property rights are asserted over technology imbedded in a standard recommended by the NCC. We conclude that these rights should be addressed by any policy that seeks to

---

<sup>8/</sup> See citation to e-mail message in letter of October 8, 1999 at p.6 and associated message.

<sup>9/</sup> Equipment manufacturers also are on record expressing their concerns over the exclusionary effects on the marketplace of IPR. See e-mail message from Robert Speidel of Ericsson at p. 19 of Attachment A to letter of Oct. 8, 1999. See also e-mail message from Dan Howard of Orbacom (Apr. 15, 1999) submitted in the WT Docket No. 96-86 proceeding and associated herewith for convenient reference.

Mr. Thomas Sugrue  
Ms. Kathleen M.H. Wallman  
November 17, 1999  
Page 6

prevent abuses in the licensing of proprietary rights in consensus standards recommended by the NCC . . .

Accordingly, we are modifying the language in the subsection of paragraph 122 of the *First Report and Order* relating to proprietary data. Within paragraph 122, the [following language is substituted]: ‘proprietary technology may be incorporated in a standard ultimately recommended when the NCC concludes technical reasons to justify its incorporation . . .’<sup>10/</sup>

Thus, the Commission obviously recognizes the weakness of the ANSI self-policing standard, and appears unwilling to leave the potential for restraint of competition in equipment supply through incorporation of proprietary features solely to the IPR holder’s representations subject to remediation through “private civil actions.”<sup>11/</sup>

The undersigned respectfully submit that the NCC cannot, under any conditions, satisfy the Commission requirements for technical justification for incorporating IPR into a signaling standard. Where bits of a signaling protocol are undefined, allowing for proprietary features, the protocol does not itself incorporate IPR, but rather — by default — allows manufacturers to fill the void with proprietary features. As suggested in the letter of October 8, 1999, there is no reason why the NCC cannot recommend to the FCC, or the Commission on its own motion cannot require, that unidentified bits be utilized in a prescribed manner, thereby eliminating the opportunity for one or more manufacturers to hijack a standard and convert it into their proprietary domain. If other IPR is incorporated into the standard, the need for, and availability of that IPR must be separately addressed.

---

<sup>10/</sup> See *MO&O* at ¶19-20 (emphasis added).

<sup>11/</sup> The Commission also requires manufacturers utilizing IPR to file a certification with the NCC. *MO&O* at ¶20. Consistent with the APCO statement quoted above, as a time and function limited organization, it would appear the NCC is less equipped than an organization such as ANSI to police and enforce such a requirement.

Mr. Thomas Sugrue  
Ms. Kathleen M.H. Wallman  
November 17, 1999  
Page 7

In summary, the undersigned parties respectfully submit that the NCC process should not be about Project 25 Phase I, but rather it should be about developing standards for the use of the 700 MHz public safety allocation in accordance with the technical and operational standards adopted by the Commission.

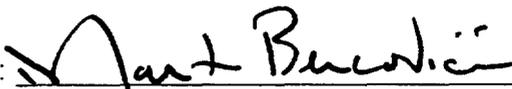
Respectfully submitted,

**AMERICAN ASSOCIATION OF STATE  
HIGHWAY AND TRANSPORTATION  
OFFICIALS**

**FORESTRY-CONSERVATION  
COMMUNICATIONS ASSOCIATION**

**INTERNATIONAL ASSOCIATION OF  
FIRE CHIEFS, INC.**

**INTERNATIONAL MUNICIPAL SIGNAL  
ASSOCIATION**

By:   
Martin W. Bercovici

Their attorney

KELLER AND HECKMAN, LLP  
1001 G Street, N.W., Suite 500 West  
Washington, D.C. 20001  
(202) 434-4144 telephone  
(202) 434-4646 facsimile

Enclosure

Mr. Thomas Sugrue  
Ms. Kathleen M.H. Wallman  
November 17, 1999  
Page 8

cc w/enc.:     The Honorable William E. Kennard, Chairman  
                  The Honorable Susan Ness, Commissioner  
                  The Honorable Harold Furchgott-Roth, Commissioner  
                  The Honorable Michael K. Powell, Commissioner  
                  The Honorable Gloria Tristani, Commissioner  
                  Dale Hatfield, Chief, Office of Engineering and Technology, FCC  
                  D'Wana Terry, Chief, Private Wireless Div., Wireless Telecom. Bureau  
                  Michael Wilhelm, Wireless Telecommunications Bureau  
                  Magalie R. Salas, Secretary, FCC

-----Original Message-----

From: Dan Howard [SMTP:dhoward@orbacom.com]

mailto:[SMTP:dhoward@orbacom.com]>

Sent: Thursday, April 15, 1999 1:55 PM

To: jack.keating@westcov.org

Cc: joe\_hanna@cor.gov; lgallagh@pioneer.state.nd.us;

gnash@telecom.dgs.ca.govmark.stillings@attws.com; bulletin@apointl.org;

dieht@apointl.org; apco@apointl.org; apcocac@egroups.com Subject:

[apcocac] APCO "Public Safety Communications", April 1999 TO: Jack Keating, President, APCO International

Dear Jack:

I read my copy of the April, 1999 issue of APCO's "Public Safety Communications" today... and it made me so angry I could just spit. Not only is the entire issue a virtual commercial for Motorola, but it could certainly be interpreted from this month's lead article that APCO itself is now endorsing Motorola products to the exclusion of all others (with the possible exception of Ericsson, who gets a sort of weak honorable mention). I would certainly expect this to anger other commercial APCO members, when after we support APCO and Project 25 from pockets much less deep than Motorola's find ourselves on the outside looking in while APCO pitches Motorola's products for them, and fills the balance of their official magazine with articles supposedly written by owners of Motorola ASTRO systems (who I suppose are trying to publicly rationalize their decision to buy proprietary pseudo-Project 25 systems from Motorola). Although I expect that Motorola makes a steady stream of articles available for publication (and "ghost writes" many more submitted by Motorola system owners), the editors of this magazine need to either find some journalistic integrity and balance, or just change the name to something like "Motorola Today".

My original intent here was not to go off on a Motorola rant (although I seem to have done that anyway), but to point out how this month's issue of "Public Safety Communications" also validates the points I have made recently to the APCO Project 25 Committee relative to the duality between Motorola's supposed commitment to "open standards" and Project 25, and the reality of what they are selling to the public safety community. At every turn in the articles, and in Motorola's own advertising in the magazine, it is clearly implied (and even stated) that Motorola's ASTRO is a Project 25 system... and it's accepted as gospel. It just ain't so!

ASTRO is a proprietary Motorola system (which may or may not use some elements of the Project 25 CAI) that is designed and being marketed to exclude products from any other vendor... period. It is often combined with other Motorola proprietary systems such as SMARTNET trunking (then sold as "Project 25 trunking", which is even more blatantly deceptive!). The design of Motorola's ASTRO hardware, notably the ASTRO Digital Interface Unit (DIU), is very

revealing of the manner in which Motorola systematically creates proprietary interfaces to Project 25 features (such as the "ACIM" port in the DIU) in these supposed "Project 25" systems, but then refuses to even discuss documenting or licensing these interfaces to other vendors, or even the system owners. I think when all is said and done, many owners of Motorola ASTRO systems who are under the impression that they have purchased APCO Project 25 systems will find that they in fact own something very different than the "open standards" systems that they were led to believe they were buying.

Jack, I hope you can see how things like the April issue of "Public Safety Communications" and the subversion of the Project 25 standards process by Motorola would cause commercial APCO members like myself and the companies which we represent to carefully evaluate our continued support of APCO, Project 25, "Public Safety Communications", and other APCO initiatives.

There is always a concern that there is the hidden agenda, that we are really unwitting pawns serving only to provide financial support to an organization who may no longer represent our interests (but might in fact be a partisan for one of our competitors). I trust the you and therest of the APCO leadership do not share the viewpoint expressed this month in "Public Safety Communications" that there are only two viable public safety radio manufacturers (a field quickly narrowed to one when you read the article), and that you will help to ensure that all of the hard work that has gone in to Project 25 by so many people from many different companies and agencies will not be subverted by Motorola's blatant self-interests. I think an issue that needs to be addressed by the Project 25 Committee... and soon... is a method of determining just when a vendor can state in their advertising that a product or system is "Project 25 compliant". Compliance with such guidelines would need to be voluntary, of course... but those vendors who truly support the Project 25 standards process would certainly be willing to participate. I'm sure that Motorola would strenuously object to such guidelines... it will be at that moment when the Project 25 committee, and APCO, will demonstrate its true strength of character.

Sincerely,

Dan Howard  
Orbacom Systems  
(Commercial APCO Member #9691084, Texas Chapter)

=====  
Dan Howard, National System Sales Manager Orbacom Systems Inc.  
P.O. Box 130160 | Main office:  
The Woodlands TX 77393 | 1704 Taylors Lane  
Phone: (281) 298-5806 | Cinnaminson NJ 08077  
Fax: (281) 364-7201 | Phone: (609) 829-4455  
E-Mail: dhoward@orbacom.com  
World Wide Web: <http://www.orbacom.com>